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| 09/761,538 | 01/16/2001 | William J. Dally | 2789.2005-002 | 5874 |
| 24319 | 7590 | 07/01/2005 | EXAMINER | |
| LSI LOGIC CORPORATION 1621 BARBER LANE MS: D-106 MILPITAS, CA 95035 | | | CHANG, RICHARD | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2663 | |

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/761,538.

Applicant(s)

DALLY, WILLIAM J.

Examiner

Richard Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2004.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-52 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 41-52 is/are allowed.
- 6) ☒ Claim(s) 1-4, 16-20 and 32-40 is/are rejected.
- 7) ☒ Claim(s) 5-15 and 21-31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Applicant's arguments with respect to claims 1-52 have been fully considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 16-20 and 32-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent No. 6,693,902 ("Sahlman et al.") in view of U.S. Patent No. 6,243,361 ("McMillen et al.") and U.S. Patent No. 5,331,632 ("Aaron et al.").

Regarding claim 1, 17, and 33, Sahlman et al. teach a Cross-connection architecture for SDH signals (a digital cross connect) comprising

a SDH frame based time-and-space division switch groups where time switch realizes the rearrangement of the time slots or bytes in accordance with the route selection calculated by the decoder processor control before they are transmitted to the space switch (plural switching stages ... and switching the data in time and space), and further disclose that an SDH DXC can transmit traffic between different SDH levels and connect traffic between different signals. The use of the cross connect also includes a

possibility for remote control of routing, initialization of reserve routes, connection from one signal to several signals; (See Fig. 1, Col. 4, line 62 to Col. 6, line 36).

Sahlman et al. teach substantially all the claimed invention but did not disclose expressly the particular application involving limitations of

"configuration storage (140 DP) at each switch storing a time/space configuration for the switch" and

"all switches switching configuration to the stored time/space configuration in frame synchronization at the start of synchronized data frames by synchronizing switches of successive stages to a configuration select signal propagated from at least one switch of an input stage".

McMillen et al. teach multistage interconnect network capable of dynamic configuration for all switch nodes wherein connections from the first stage expand in space from input connections, and connections to the final stage concentrate in space to output connections or vice versa (See Fig. 2) and

configuration storage (108 mapping tables) at each switch (12 PM) storing a time/space configuration for the switch, all switches dynamically switching configuration to the stored configuration by synchronizing switches of successive stages to a configuration select signal propagated from at least one switch of an input stage (via the forward channel 32) (See Fig. 21, Col. 22, lines 19-60).

A person of ordinary skill in the art would have been motivated to employ McMillen et al. in Sahlman et al. in order to obtain a multi-stage digital cross connect switch and to take advantage of providing mapping tables at each switch node storing a

configuration for the switch, all switch nodes dynamically switching configuration to the stored configuration by synchronizing switches of successive stages via the forward channel in claims 1, 17 and 33.

The suggestion/motivation to do so would have been to providing mapping tables at each switch node storing a configuration for the switch, all switch nodes dynamically switching configuration to the stored configuration by synchronizing switches of successive stages via the forward channel, as suggested by McMillen et al, Col. 22, lines 19-60. At the time the invention was made, therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine McMillen et al. with Sahlman et al. to obtain the inventions specified in claims 1, 17 and 33.

Regarding claims 2-4 and 18-20, these claim have limitation that is similar to those of claims 1 and 17 and Sahlman et al. further teach for synchronous transport transmission application, inherently the configuration signal is carried via the A1 byte for OAM application, thus it is rejected with the same rationale applied against claims 1 and 17 above.

Regarding claims 16 and 32, this claim have limitation that is similar to those of claims 1 and 17, thus it is rejected with the same rationale applied against claims 1 and 17 above.

Regarding claim 34-37, Sahlman et al. and McMillen et al. teach substantially all the claimed invention and further "FIG. 2 it is for example possible to connect STM-1 signals from 16 time switches, and correspondingly the outputs to 16 time switches" (See Fig. 2, Col. 5, lines 1-10), but did not disclose expressly the particular application

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involving limitations of "each switch comprising a time slot interchanger associated with each input and output port".

Aeron et al. teach an expandable time slot interchanger system in a telephone switching environment wherein a plurality of interface units 26 are connected by communication channels 28 to TSI 24 and the interface units provide for data expansion or multiplexing between data channels 30 and the TSI 24 representing that the switching system can be grown by utilizing corresponding sets of these elements (each switch comprising a time slot interchanger associated with each input and output port); " (See Fig. 1, Col. 3, lines 12-25)

A person of ordinary skill in the art would have been motivated to employ Aaron et al. in Sahlman et al. and McMillen et al. in order to obtain a multi-stage digital cross connect switch and to take advantage of an expandable time slot interchanger at the input and output interface node in claims 34-37.

The suggestion/motivation to do so would have been to accommodate a multi-stage digital cross connect switch and to take advantage of an expandable time slot interchanger at the input and output interface node in claims 34-37. At the time the invention was made; therefore, it would have been obvious to one of ordinary skill in the art to which the invention pertains to combine Arsrn et al. with Sahlman et al. and McMillen et al. to obtain the inventions specified in claims 34-37.

Regarding claims 38-40, this claim have limitation that is similar to those of claim 37, thus it is rejected with the same rationale applied against claim 37 above.

Allowable Subject Matter

4. Claims 5-15 and 21-31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims and if no art rejection can be applied.

Examiner's Statement of Reasons for Allowance

5. Claims 41-52 are allowed.

6. The following is an examiner's statement of reasons for allowance:

The prior art along or in combination fails to teach or make obvious the limitations that specifically comprises: "A switch circuit on an integrated circuit chip wherein a second frame counter to which a second portion of the plural frames of time multiplexed input data is synchronized" as recited in the independent claim 41.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Richard Chang whose telephone number is (571) 272-3129. The examiner can normally be reached on Monday - Friday from 8 AM to 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

rlw
rkc

Richard Chang
Patent Examiner
Art Unit 2663

Ricky Ngo
RICKY NGO
PRIMARY EXAMINER

8/27/05